

NEW SUBSPECIES OF THICK-BILLED VIREO
(AVES: VIREONIDAE) FROM THE CAICOS ISLANDS,
WITH REMARKS ON TAXONOMIC STATUS
OF OTHER POPULATIONS

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Abstract. — *Vireo crassirostris stalagmium* is described as a new subspecies from the Caicos Islands (southern Bahamas) and is compared with all other subspecies of *V. crassirostris*. The name *Vireo crassirostris alleni* Cory is resurrected for the Cayman Islands population.

The Thick-billed Vireo (*Vireo crassirostris*) is a common resident in scrublands and xeric to mesic woodlands throughout most of the Bahamas, though apparently absent from the Turks Bank at the extreme southeastern end of the archipelago. This species is present elsewhere in similar habitats on Ile de la Tortue (off the northern coast of Haiti), on Grand Cayman, Little Cayman, and Cayman Brac (islands approximately equidistant from Cuba and Jamaica), and on Old Providence Island (=Providencia), including Santa Catalina Island (in the southwestern Caribbean)—the Little Cayman population may be recently extirpated (Diamond 1980). *Vireo crassirostris* has been recorded casually in Florida (American Ornithologists' Union 1983), presumably vagrant from the Bahamas.

Bond (1956) and Blake (1968) recognized three subspecies: *Vireo crassirostris crassirostris* (Bryant) in the Bahamas and the Cayman Islands, *V. c. tortugae* Richmond on Tortue, and *V. c. approximans* Ridgway on Old Providence. According to Bond (1965) *approximans* differs from the other subspecies mainly in voice; also, the mandible tends to be paler (more yellow) in the specimens from Old Providence. Chromatically, *V. c. tortugae* is the most distinctive subspecies. Specimens from Tortue are darker (more brown or buff) on the venter than are those from elsewhere in the range, though one or two (of nearly 200 examined) from the Bahamas approach this condition. Morphological variation among Bahaman and Cayman populations is more complex.

Cory (1886) described *Vireo alleni* as a new species based on material collected on Grand Cayman. In 1887, Ridgway proposed the name *Vireo crassirostris flavescens* for relatively bright yellow examples of Thick-billed Vireos in the Bahamas that he found exclusively on Rum Cay and Conception Island. He reported (Ridgway 1887, 1904) that *flavescens* and the nominate form both occurred together on Eleuthera, Cat Island, Green Cay, and Inagua. Cory (1892) treated *V. c. flavescens* as a synonym of *V. c. alleni* giving the range of the latter as Grand Cayman and Cayman Brac and the following Bahama Islands: Berry Islands, Bimini Islands, Eleuthera, Rum Cay, Conception Island, Mayaguana, Inagua.

Todd and Worthington (1911) reported that specimens of *V. crassirostris* in the southern Bahamas are more yellow ventrally than are those from the northern islands, and that geographically intermediate samples include "puzzling series of

intergrades . . . as well as typical examples of each form occurring well within the area of predominance of the other." They treated *V. c. flavescens* as a synonym of *V. c. crassirostris*, but retained the name *V. alleni*, at least tentatively, for the Cayman population. Bangs (1916) followed Todd and Worthington (1911) in regarding *V. c. flavescens* as a synonym of *V. c. crassirostris* and included the Cayman Islands within the range of this subspecies stating that characters supposedly distinguishing *alleni* from *crassirostris* (brownier back, shorter outer primary, broader wing bars) all prove illusive.

I have examined new material from the Bahamas together with other samples from throughout the range of this species; mensural data are given in Table 1. All measurements are in millimeters. Wings were measured flattened against a ruler and the comparisons involving wing and tail measurements (for all samples) are limited to specimens collected in the months January through April.

Specimens from the Cayman Islands tend to have darker bills than do those from elsewhere in the range of the species. The Cayman birds usually have a dark brown culmen that appears almost black in many individuals with dark pigment especially prominent on the proximal half of the bill; the tomial region is paler, more gray than brown or black. In Bahaman specimens, the culmen is medium brown with tan and/or reddish tones, especially toward the tip; the coloration of the tomial region is similar to that of the Cayman birds. The contrast in coloration between the mandibular tomial region and the darker parts of the gonys and rami is greater in Cayman birds than in Bahaman examples.

Among MCZ specimens of *Vireo crassirostris*, individuals with the darkest bills are from Little Cayman. Examples from Grand Cayman and Cayman Brac are, for the most part, intermediate in bill color between Little Cayman and Bahaman specimens. In my opinion, the difference in bill color justifies treating *V. crassirostris* in the Cayman Islands as members of a separate subspecies. The name *Vireo crassirostris alleni* Cory is available for this population. Except for the measurement tail length in females, the specimens from Grand Cayman average slightly smaller in bill, wing, and tail measurements than do those from Little Cayman and/or Cayman Brac (Table 1).

The pattern of distribution of color variants among 190 Bahaman specimens of *V. crassirostris* that I examined (Figure 1) essentially accords with the description given by Todd and Worthington (1911). The whitest birds are from the northwesternmost islands generally, whereas individuals with the greatest amount of yellow are from the central and southern Bahamas. Individuals that are relatively more yellow on the venter also are relatively more yellow-green (less olive, brownish-green, or grayish-green) on the dorsum.

Distribution of these "color-phases," however, is not consistent geographically; many samples, especially among those from the more central part of the archipelago, show much variation between (in some cases including) the two extremes in coloration. Also, "yellowish" individuals are well-represented in samples from the Bimini and Berry islands in the northwestern Bahamas where white-vented individuals predominate. Todd and Worthington (1911) cite other examples of color extremes found outside of the areas they usually occur. I follow these authors in treating *V. c. flavescens* as a synonym of the nominate subspecies, as did Bangs (1916), Hellmayr (1935), and Bond (1956).

Todd and Worthington (1911) did not discuss mensural variation in *V. cras-*

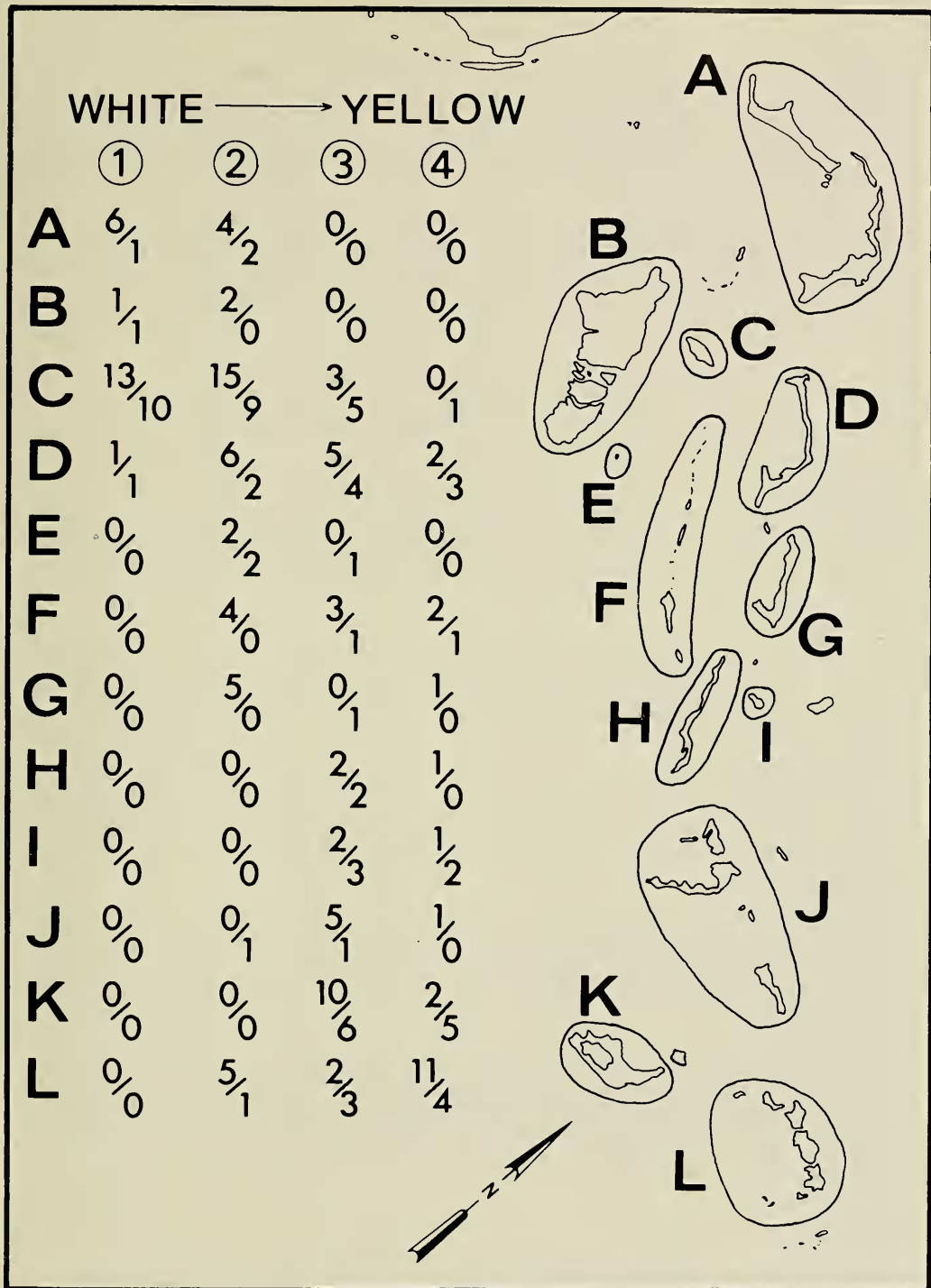


Fig. 1. Distribution of 190 specimens of *Vireo crassirostris* in four categories of ventral coloration ranging from predominately white (1) to predominately yellow (4) given as males/females for each sample; localities as follows: A = Little Bahama Bank, B = Andros, C = New Providence, D = Eleuthera, E = Green Cay, F = Exumas, G = Cat Island, H = Long Island, I = Rum Cay, J = Crooked-Acklins + Mayaguana, K = Great Inagua, L = Caicos Islands.

Table 1.—Mean, and sample size (row 1) and range (row 2) for four measurements in 16 samples of *Vireo crassirostris* from throughout the range of the species; the first 11 localities (Little Bank through Caicos Bank) are Bahama Islands. Wing and tail measurements are of specimens collected only during the months of January through April; all measurements in millimeters.

Locality	Males				Females			
	Wing length	Tail length	Bill length	Bill depth	Wing length	Tail length	Bill length	Bill depth
Little Bank	63.8 (10) 62.0–66.0	49.4 (11) 47.0–52.0	11.8 (19) 10.4–12.8	4.6 (16) 4.3–4.9	62.0 (1) —	48.2 (10) 46.2–51.4	11.7 (13) 11.1–12.9	4.6 (10) 4.3–5.0
Andros	63.0 (2) 62.0–64.0	50.6 (2) 49.1–52.0	11.3 (6) 10.8–12.0	4.4 (3) 4.3–4.5	—	46.4 (1) —	11.3 (2) 10.9–11.6	—
New Providence	62.5 (16) 60.0–65.0	49.5 (20) 44.1–52.6	11.7 (26) 11.0–12.7	4.6 (14) 4.3–5.0	61.7 (11) 60.0–63.0	48.1 (17) 45.5–51.4	11.5 (22) 10.7–12.1	4.5 (15) 4.2–4.8
Eleuthera	62.8 (10) 60.0–65.0	50.2 (10) 47.3–51.8	12.1 (19) 11.2–13.0	4.5 (15) 4.2–4.7	62.0 (10) 60.0–64.0	48.9 (9) 46.8–50.5	12.0 (13) 11.2–12.9	4.5 (10) 4.3–4.8
Cat	63.3 (6) 61.0–66.0	49.4 (6) 47.2–52.1	12.1 (6) 11.5–12.8	4.6 (6) 4.3–4.8	62.0 (1) —	48.8 (1) —	12.0 (1) —	4.7 (1) —
Green Cay	63.5 (2) 63.0–64.0	49.2 (2) 47.2–51.2	12.7 (1) —	4.5 (1) —	61.0 (3) 58.0–64.0	47.2 (3) 46.2–49.0	11.7 (3) 11.2–12.2	4.6 (3) 4.4–4.8
Exumas	63.3 (8) 60.0–65.0	48.5 (8) 45.2–51.0	11.8 (7) 11.1–12.7	4.7 (3) 4.5–4.8	62.5 (3) 62.0–63.0	47.6 (2) 45.8–49.4	11.7 (3) —	4.6 (3) —
Rum Cay	63.7 (3) 63.0–64.0	49.9 (3) 49.6–50.1	11.5 (3) 11.5–11.6	4.5 (2) —	61.0 (4) 60.0–64.0	46.9 (3) 44.5–48.4	11.5 (6) 11.1–12.0	4.4 (5) 4.2–4.5
Crooked-Acklins	63.0 (3) 62.0–64.0	47.6 (3) 45.8–48.2	12.1 (4) 11.1–13.0	4.6 (2) —	62.0 (1) —	47.8 (1) —	12.8 (1) —	—
Great Inagua	62.3 (3) 61.0–64.0	48.8 (5) 47.3–50.3	11.7 (11) 10.6–12.5	4.7 (9) 4.3–5.0	62.8 (4) 60.0–64.0	46.5 (10) 44.2–48.1	11.5 (14) 10.5–12.3	4.6 (8) 4.4–4.7
Caicos Bank	59.4 (9) 57.0–61.0	44.7 (13) 42.4–46.9	11.5 (18) 10.6–12.4	4.2 (15) 4.0–4.5	59.0 (3) 58.0–61.0	44.4 (6) 42.0–49.8	11.5 (9) 10.8–12.2	4.3 (7) 3.9–4.4
Tortue	62.0 (3) 61.0–63.0	47.2 (5) 45.0–49.4	10.9 (6) 10.4–11.1	4.0 (2) 3.9–4.1	59.0 (2) 58.0–60.0	45.0 (2) 43.3–46.7	10.8 (2) 10.7–10.8	4.2 (2) 4.1–4.2
Grand Cayman	61.0 (4) 60.0–63.0	48.1 (4) 45.0–54.0	11.3 (6) 10.8–11.8	4.5 (5) 4.3–4.8	59.0 (2) 58.0–60.0	46.3 (2) 45.0–47.6	10.8 (5) 10.2–11.8	4.2 (2) 4.1–4.3
Little Cayman	—	—	11.9 (5) 11.2–12.6	4.6 (6) 4.3–4.9	—	—	—	—
Cayman Brac	62.7 (3) 62.0–63.0	48.7 (3) 48.5–49.0	12.0 (5) 11.3–12.6	4.7 (5) 4.4–4.9	60.0 (1) —	45.1 (2) 44.1–46.1	11.8 (6) 11.2–12.5	4.6 (5) 4.5–4.8
Old Providence	61.0 (5) 60.0–62.0	49.5 (5) 46.2–51.5	11.7 (4) 11.1–11.9	4.2 (3) 4.0–4.4	61.0 (1) —	48.7 (1) —	10.9 (1) —	4.1 (1) —

sirostris and no marked differences in measurements among Bahaman samples of this species were reported by Ridgway (1904). However, many of Ridgway's samples were extremely small; measurements of only one male and three females from Inagua comprised his mensural data on specimens from the southern Bahamas. The means and sample sizes for the measurements wing length, tail length, bill length, and bill depth in Bahaman specimens that I examined are given in Table 1. There are no noteworthy differences among 10 of the 11 samples. However, with the exception of the measurement bill length, individuals of both sexes from the Caicos Islands average consistently smaller than those of any other Bahaman sample. The Caicos population may be known by the name.

Vireo crassirostris stalagmium, new subspecies

Holotype.—LSUMZ 70838, adult male, Caicos Islands, North Caicos, along Flamingo Pond Road, east of Kew, collected 29 Feb 1972 by D. W. Buden.

Characters.—In comparison with the nominate subspecies, *stalagmium* differs by its smaller measurements of wing length, tail length and bill depth; differences are most marked in males. Nine male *stalagmium* range from 57.0 to 61.0 mm in wing length, whereas 63 male *crassirostris* (from throughout the Bahamas) range from 60.0 to 66.0 mm in this character. The 10 samples of male *crassirostris* each averages over 61.0 mm in wing length and the one sample of male *stalagmium* averages 59.4 mm. The sample of male *stalagmium* averages 44.7 mm in tail length, whereas each of 10 samples of male *crassirostris* averages greater than 47.0 mm in this character. In coloration, specimens of *stalagmium* tend to resemble many examples of *crassirostris* from the central and southern Bahamas, but in comparison with many of the individuals from the northern islands, they have more yellow pigment, especially on the venter.

In wing and tail measurements, examples of *stalagmium* average also smaller than do those of all other subspecies (*tortugae*, *alleni*, *approximans*), at least in males. Individuals of *stalagmium* differ from those of *tortugae* further in having (on the average) longer bills and in having more yellow on the venter with less buff color on the upper part of the breast and along the sides of the neck and throat. Examples of *stalagmium* tend to have paler bills than do those of *alleni*.

Range.—Known only from the Caicos Islands in the extreme southeastern Bahamas. Recorded from West Caicos, Providenciales, Bay Cay, Water Cay, Pine Cay, Parrot Cay, North Caicos, Middle Caicos, East Caicos, and South Caicos, and doubtlessly occurring on other of the many islands of the Caicos Bank.

Etymology.—From the Latin, *stalagmium*, a golden pearl pendant or earring, in allusion to the yellow ventral coloration of this subspecies and to the location of the Caicos Bank relative to the other islands in the Bahama chain; a noun in apposition.

Specimens Examined

Vireo crassirostris crassirostris.—BAHAMA ISLANDS: Grand Bahama, AS (1M, 1F), FMNH (2M, 1F), MCZ (2M, 2F); Strangers Cay, MCZ (1M); Great Abaco and Little Abaco, AS (1M), FMNH (5M, 6F), USNM (6M, 1F); Elbow Cay, MCZ (1M); South Bimini, AS (1M, 2F); Berry Islands, MCZ (2M, 1F); Andros, AS (3M, 2F), MCZ (2M, 1F), USNM (1M); New Providence, LSUMZ

(1M), MCZ (24M, 20F, 4?), USNM (8M, 8F, 1?): Eleuthera (including Current Island), AS (6M, 3F), MCZ (4M, 1F), USNM (11M, 8F); Cat Island, USNM (6M, 1F, 1?); Exuma Cays—Cistern Cay, MCZ (1F), Farmer's Cay, MCZ (1M), Exuma (=Great Exuma?), MCZ (2M, 1F), Roseville, Great Exuma, MCZ (2M), Anna's Tract, off Exuma, MCZ (1M), Brigantine Cay, MCZ (1M), Conch Cut Cay, MCZ (2M), Green Turtle Cay, MCZ (1M), Refuge Cay, MCZ (1M); Green Cay, USNM (2M, 1F); Long Island, USNM (3M, 2F); Rum Cay, AS (1F), USNM (3M, 5F, 1?); San Salvador, AS (1M); Ragged Islands, Hog Island, USNM (1M); Crooked Island, LSUMZ (1M, 1F); Acklins Island, LSUMZ (2M), USNM (1M); West Plana Cay, USNM (1M); Mayaguana, LSUMZ (2M, 2F, 1?); Great Inagua, FMNH (8M, 12F), MCZ (3M, 2F); Little Inagua, USNM (1F); no other locality, MCZ (1?).

Vireo crassirostris stalagmium. —CAICOS ISLANDS: Providenciales LSUMZ (5M, 1F, 1?), USNM (1M, 1F); North Caicos, LSUMZ (5M, 1?); Middle Caicos, LSUMZ (1?), USNM (2F); East Caicos, LSUMZ (2M, 2F, 1?); South Caicos, MCZ (1M, 1?); no other locality, FMNH (5M, 3F).

Vireo crassirostris tortugae. —ILE DE LA TORTUE, AS (2M), MCZ (1M, 1F), USNM (3M, 1F).

Vireo crassirostris alleni. —CAYMAN ISLANDS: Grand Cayman, LSUMZ (3M, 1F, 1?), MCZ (3M, 4F); Little Cayman, MCZ (6M); Cayman Brac, FMNH (4M, 2F), MCZ (2M, 2F).

Vireo crassirostris approximans. —OLD PROVIDENCE, MCZ (5M, 1F, 1F?).

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